

Molecule: pPJV2002, 5500 bps DNA Circular
 File Name: pPJV2002.cm5,

Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4697	CTA CDS	
REGION	4805	5101	bGHpA	

Enzymes (15 sites)

SalI	2241,	MscI	2266,	SpeI	2356,	SacII	3009
NsiI	3106,	PstI	3879,	HindIII	3894,	NheI	3969
ClaI	4553,	BamHI	4698,	BglII	4805,	EcoRI	5100

FIG. 1-1



Molecule: pPJV2002, 5500 bps DNA Circular
Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam Vector
File Name: pPJV2002.cm5,
Printed: 1-5500 bps (Full), format Single Strand

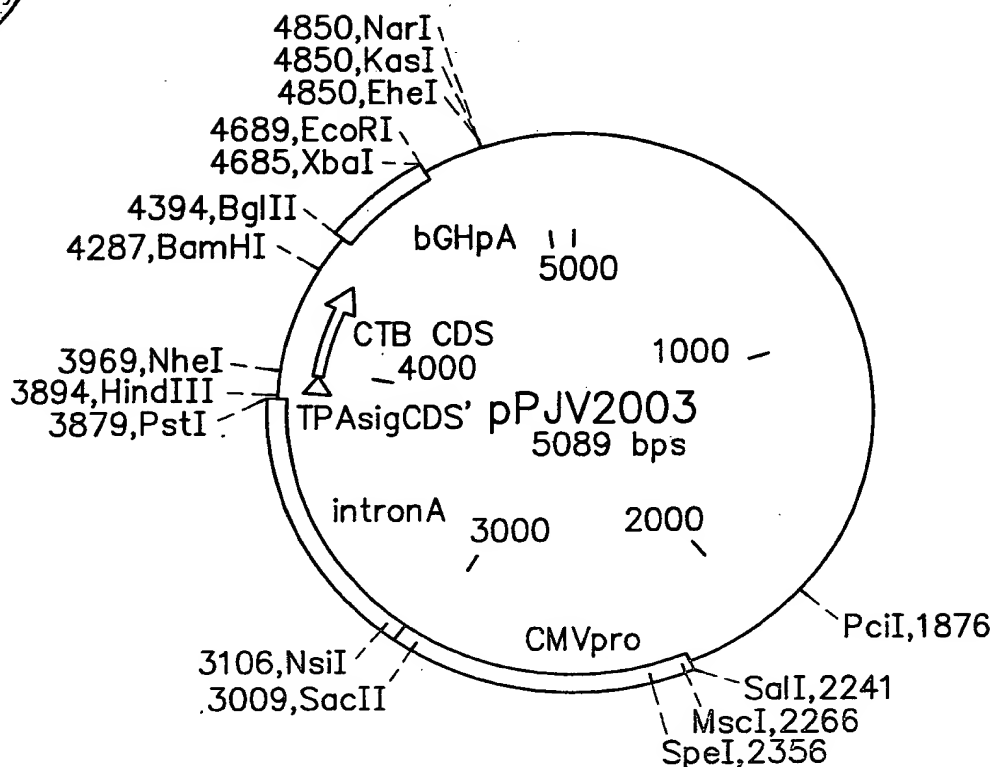
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61  CTTAGACGTC AGGTGGCACT TTTGGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTGTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAGTG
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAACCTTCT ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTCG TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AAGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAACGGCTC TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACCGGGGGTT
1561 CGTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTGC ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGAAA AACGCCAGCA ACGCGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCATATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC CGCGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACC CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATCAGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG CCGTGGATAG
2761 CGGTTTGACT CACGGGGATT TCCAAGTCTC CACCCATTG ACGTCAATGG GAGTTTGTTC
2821 TGGCACCAA ATCAACGGGA CTTTCCAAA TGTCGTAATA ACCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
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FIG. 1-2



2941	CAGATCGCCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCAAT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCCTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTTACA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTA AACATA
3421	GCGTGGGATC	TCCACGCCAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TGGGAGATTG
3661	GGCTCGCACC	GTGACGCAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCC	TTCCGGTGCT	GTTAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCAATGAT	GATAAGTTAT	ATCGGGCAGA	TTCTAGACCT	CCTGATGAAA
4021	TAAAGCAGTC	AGGTGGTCTT	ATGCCAAGAG	GACAGAGTGA	GTACTTTGAC	CGAGGTA CTC
4081	AAATGAATAT	CAACCTTTAT	GATCATGCAA	GAGGAACTCA	GACGGGATTT	GTTAGGCACG
4141	ATGATGGATA	TGTTTCCACC	TCAATTAGTT	TGAGAAGTGC	CCACTTAGTG	GGTCAAACTA
4201	TATTGTCTGG	TCATTCTACT	TATTATATAT	ATGTTATAGC	CACTGCACCC	AACATGTTTA
4261	ACGTTAATGA	TGTATTAGGG	GCATACAGTC	CTCATCCAGA	TGAACAAGAA	GTTTCTGCTT
4321	TAGGTGGGAT	TCCATACTCC	CAAAATATATG	GATGGTATCG	AGTTCATTTT	GGGGTGCTTG
4381	ATGAACAATT	ACATCGTAAT	AGGGGCTACA	GAGATAGATA	TTACAGTAAC	TTAGATATTG
4441	CTCCAGCAGC	AGATGGTTAT	GGATTGGCAG	GTTTCCCTCC	GGAGCATAGA	GCTTGGAGGG
4501	AAGAGCCGTG	GATTTCATCAT	GCACCGCCGG	GTTGTGGGAA	TGCTCCAAGA	TCATCGATGA
4561	GTAATACTTG	CGATGAAAAA	ACCCAAAGTC	TAGGTGTAAA	ATTCTTTGAC	GAATACCAAT
4621	CTAAAGTTAA	AAGACAAATA	TTTTTCAGGCT	ATCAATCTGA	TATTGATACA	CATAATAGAA
4681	TTAAGGATGA	ATTATGAGGA	TCCTCGCAAT	CCCTAGGAGG	ATTAGGCAAG	GGCTTGAGCT
4741	CACGCTCTTG	TGAGGGACAG	AAATACAATC	AGGGGCAGTA	TATGAATACT	CCATCGAGAA
4801	ACCCAGATCT	ACGTATGATC	AGCCTCGACT	GTGCCCTTCTA	GTTGCCAGCC	ATCTGTTGTT
4861	TGCCCCCTCC	CCGTGCCTTC	CTTGACCCTG	GAAGGTGCCA	CTCCCACTGT	CCTTTCCTAA
4921	TAAAATGAGG	AAATTGCATC	GCATTGTCTG	AGTAGGTGTC	ATTCTATTCT	GGGGGGTGCG
4981	GTGGGGCAGG	ACAGCAAGGG	GGAGGATTGG	GAAGACAATA	GCAGGCATGC	TGGGGATGCG
5041	GTGGGCTCTA	TGGCTTCTGA	GGCGGAAAGA	ACCAGCTGGG	GCTCGACAGC	TGACTCTAG
5101	AATTCACCTG	CCGTCGTTTT	ACAACGTCGT	GACTGGGAAA	ACCCTGGCCT	TACCCAAC TT
5161	AATCGCCTTG	CAGCACATCC	CCCTTTCGCC	AGCTGGCGTA	ATAGCGAAGA	GGCCCGCACC
5221	GATCGCCCTT	CCCAACAGTT	GCGCAGCCTG	AATGGCGAAT	GGCGCCTGAT	GCGGTATTTT
5281	CTCCTTACGC	ATCTGTGCGG	TATTTACACAC	CGCATATGGT	GCACTCTCAG	TACAATCTGC
5341	TCTGATGCCG	CATAGTTAAG	CCAGCCCCGA	CACCCGCCAA	CACCCGCTGA	CGCGCCCTGA
5401	CGGGCTTGTC	TGCTCCCGGC	ATCCGCTTAC	AGACAAGCTG	TGACCGTCTC	CGGGAGCTGC
5461	ATGTGTCAGA	GGTTTTACC	GTCATCACCG	AAACGCGCGA		

FIG. 1-3



Molecule: pPJV2003, 5089 bps DNA Circular
 File Name: pPJV2003.cm5,

Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4286	CTB CDS	
REGION	4394	4690	bGHpA	

Enzymes (16 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	HindIII	3894
NheI	3969,	BamHI	4287,	BglII	4394,	XbaI	4685

FIG. 2-1



Replacement Sheet
Title: NUCLEIC ACID ADJUVANTS
Inventors: Joel R. HAYNES *et al.*
Appl. No.: 09/993,307
Atty Docket No. 036481-0140

Molecule: pPJV2003, 5089 bps DNA Circular
Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector
File Name: pPJV2003.cm5,
Printed: 1-5089 bps (Full), format Single Strand

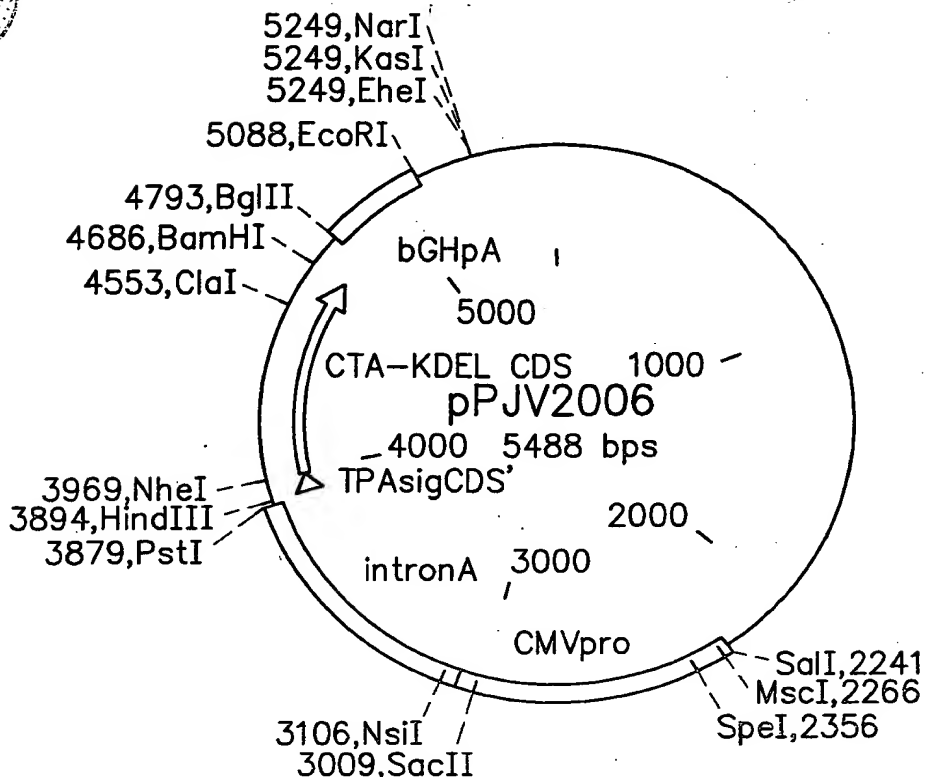
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121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTGCGCCCT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGCGCG GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAC TG
781 GCGAACTACT TACTCTAGCT TCCC GGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TAAAACTTC ATTTTAAATT TAAAAGGATC TAGTGGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGCACACA GCGGAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGGCTCCG TGACCGCCCA
2461 ACGACCCCG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACC CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGC GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
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FIG. 2-2



2581	AAGTGTATCA	TATGCCAAGT	CCGGCCCCCT	ATTGACGTCA	ATGACGGTAA	ATGGCCCCGCC
2641	TGGCATTATG	CCCACTACAT	GACCTTACGG	GACTTTCCTA	CTTGGCAGTA	CATCTACGTA
2701	TTAGTCATCG	CTATTACCAT	GGTGATGCGG	TTTTGGCAGT	ACACCAATGG	CCGTGGATAG
2761	CGGTTTGA	CACGGGGATT	TCCAAGTCTC	CACCCCATTG	ACGTCAATGG	GAGTTTGT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGGCGGTA	GGCGTGACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCGCCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACCGTGCAAT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTTGGCTT	GGGGCCTATA	CACCCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTACA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCGAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TCCGAGATTG
3661	GGCTCGCACC	GTGACGCAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCG	TTGCCGTGCT	GTTAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCACACCT	CAAAATATTA	CTGATTTGTG	TGCAGAATAC	CACAACACAC
4021	AAATATATAC	GCTAAATGAT	AAGATATTTT	CGTATACAGA	ATCTCTAGCT	GGAAAAAGAG
4081	AGATGGCTAT	CATTACTTTT	AAGAATGGTG	CAATTTTTC	AGTAGAAGTA	CCAGGTAGTC
4141	AACATATAGA	TTACAAAAAA	AAAGCGATTG	AAAGGATGAA	GGATACCCTG	AGGATTGCAT
4201	ATCTTACTGA	AGCTAAAGTC	GAAAAGTTAT	GTGTATGGAA	TAATAAAACG	CCTCATGCCA
4261	TTGCCGCAAT	TAGTATGGCA	AATTAAGGAT	CCTCGCAATC	CCTAGGAGGA	TTAGGCAAGG
4321	GCTTGAGCTC	ACGCTCTTGT	GAGGGACAGA	AATACAATCA	GGGGCAGTAT	ATGAATACTC
4381	CATGGAGAAA	CCCAGATCTA	CGTATGATCA	GCCTCGACTG	TGCCTTCTAG	TTGCCAGCCA
4441	TCTGTTGTTT	GCCCCCTCCC	CGTGCCTTCC	TTGACCCTGG	AAGGTGCCAC	TCCCAGTGTC
4501	CTTTCCTAAT	AAAATGAGGA	AATTGCATCG	CATTGTCTGA	GTAGGTGTCA	TTCTATTCTG
4561	GGGGGTGGGG	TGGGGCAGGA	CAGCAAGGGG	GAGGATTGGG	AAGACAATAG	CAGGCATGCT
4621	GGGGATGCCG	TGGGCTCTAT	GGCTTCTGAG	GCGGAAAGAA	CCAGCTGGGG	CTCGACAGCT
4681	CGACTCTAGA	ATTCACCTGG	CGTCGTTTTA	CAACGTCGTG	ACTGGGAAAA	CCCTGGCGTT
4741	ACCCAACCTA	ATCGCCTTGC	AGCACATCCC	CCTTTCGCCA	GCTGGCGTAA	TAGCGAAGAG
4801	GCCCCGACCG	ATCGCCCTTC	CCAACAGTTG	CGCAGCCTGA	ATGGCGAATG	GCGCCTGATG
4861	CGGTATTTTC	TCCTTACGCA	TCTGTGCGGT	ATTTACACAC	GCATATGGTG	CACCTCTCAGT
4921	ACAATCTGCT	CTGATGCCCG	ATAGTTAAGC	CAGCCCCGAC	ACCCGCCAAC	ACCCGCTGAC
4981	GCGCCCTGAC	GGGCTTGTCT	GCTCCCGGCA	TCCGCTTACA	GACAAGGTGT	GACCGTCTCC
5041	GGGAGCTGCA	TGTGTCAGAG	GTTTTACCCG	TCATCACCGA	AACGCGCGA	

FIG. 2-3



Molecule: pPJV2006, 5488 bps DNA Circular
 File Name: pPJV2006.cm5,

Description: Ligation of CTA-KDEL Frag cut w/ Nhe Bam into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4685	CTA-KDEL CDS	
REGION	4793	5089	bGHpA	

Enzymes (15 sites)

SalI	2241,	MscI	2266,	SpeI	2356,	SacII	3009
NsiI	3106,	PstI	3879,	HindIII	3894,	NheI	3969
ClaI	4553,	BamHI	4686,	BglII	4793,	EcoRI	5088

FIG. 3-1



Molecule: pPJV2006, 5488 bps DNA Circular
Description: Ligation of CTA-KDEL PCR Frag cut w/ Nhe Bam into 7054 Nhe Bam Vector
File Name: pPJV2006.cm5,
Printed: 1-5488 bps (Full), format Single Strand

```
1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCCGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTGCGCCCT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA CAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGC AAA CTATTAAC TG
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC GTGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTA AAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTA ACTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCG TGGTATCTTT
1741 ATAGTCCTGT CGGTTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGCGCGAG CCTATGAAA AACGCCAGCA ACGCGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGAAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTGGCAGTA CATCTACGTA
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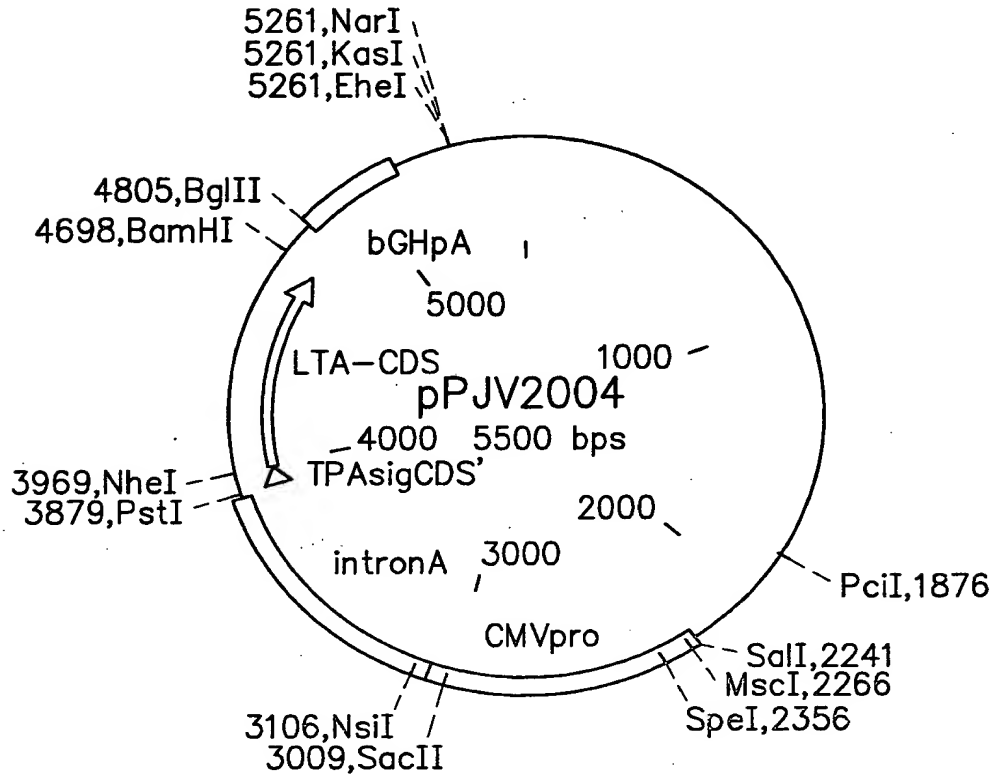
FIG. 3-2



Replacement Sheet
Title: NUCLEIC ACID ADJUVANTS
Inventors: Joel R. HAYNES *et al.*
Appl. No.: 09/993,307
Atty Docket No. 036481-0140

2701	TTAGTCATCG	CTATTACCAT	GGTGATGCGG	TTTTGGCAGT	ACACCAATGG	GCGTGGATAG
2761	CGGTTTGACT	CACGGGGATT	TCCAAGTCTC	CACCCCATTG	ACGTCAATGG	GAGTTTGTIT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGGCGGTA	GGCGTGTACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCGCCT	GGACACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCATT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTACA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCGAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TCGGAGATTG
3661	GGCTCGCACC	GTGACCGAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCG	TTGCGGTGCT	GTTAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCAATGAT	GATAAGTTAT	ATCGGGCAGA	TTCTAGACCT	CCTGATGAAA
4021	TAAAGCAGTC	AGGTGGTCTT	ATGCCAAGAG	GACAGAGTGA	GTACTTTGAC	CGAGGTACTC
4081	AAATGAATAT	CAACCTTTAT	GATCATGCAA	GAGGAACTCA	GACGGGATTT	GTTAGGCACG
4141	ATGATGGATA	TGTTTCCACC	TCAATTAGTT	TGAGAAGTGC	CCACTTAGTG	GGTCAAACCTA
4201	TATTGTCTGG	TCATTCTACT	TATTATATAT	ATGTTATAGC	CACTGCACCC	AACATGTTTA
4261	ACGTTAATGA	TGTATTAGGG	GCATACAGTC	CTCATCCAGA	TGAACAAGAA	GTTTCTGCTT
4321	TAGGTGGGAT	TCCATACTCC	CAAATATATG	GATGGTATCG	AGTTCATTTT	GGGGTGCTTG
4381	ATGAACAATT	ACATCGTAAT	AGGGGCTACA	GAGATAGATA	TTACAGTAAC	TTAGATATTG
4441	CTCCAGCAGC	AGATGGTTAT	GGATTGGCAG	GTTTCCCTCC	GGAGCATAGA	GCTTGGAGGG
4501	AAGAGCCGTG	GATTCATCAT	GCACCGCCGG	GTTGTGGGAA	TGCTCCAAGA	TCATCGATGA
4561	GTAATACTTG	CGATGAAAAA	ACCCAAAGTC	TAGGTGTAAA	ATTCCCTTGAC	GAATACCAAT
4621	CTAAAGTTAA	AAGACAAATA	TTTTCAGGCT	ATCAATCTGA	TATTGATACA	CATAATAGAA
4681	TTTGAGGATC	CTCGCAATCC	CTAGGAGGAT	TAGGCAAGGG	CTTGAGCTCA	CGCTCTTG TG
4741	AGGGACAGAA	ATACAATCAG	GGGCAGTATA	TGAATACTCC	ATGGAGAAAC	CCAGATCTAC
4801	GTATGATCAG	CCTCGACTGT	GCCTTCTAGT	TGCCAGCCAT	CTGTTGTTTG	CCCCTCCCCC
4861	GTGCCCTTCT	TGACCCTGGA	AGGTGCCACT	CCCCTGTCC	TTTCCTAATA	AAATGAGGAA
4921	ATTGCATCGC	ATTGTCTGAG	TAGGTGTCAT	TCTATTCTGG	GGGGTGGGGT	GGGGCAGGAC
4981	AGCAAGGGGG	AGGATTGGGA	AGACAATAGC	AGGCATGCTG	GGGATGCGGT	GGGCTCTATG
5041	GCTTCTGAGG	CGGAAAGAAC	CAGCTGGGGC	TCGACAGCTC	GA CTCTAGAA	TTC ACTGGCC
5101	GTCGTTTTAC	AACGTCGTGA	CTGGGAAAAC	CCTGGCGTTA	CCCAACTTAA	TCGCCTTGCA
5161	GCACATCCCC	CTTTCGCCAG	CTGGCGTAAT	AGCGAAGAGG	CCCGCACCGA	TCGCCCTTCC
5221	CAACAGTTGC	GCAGCCTGAA	TGGCGAATGG	CGCCTGATGC	GGTATTTTCT	CCTTACGCAT
5281	CTGTGCGGTA	TTTCACACCG	CATATGGTGC	ACTCTCAGTA	CAATCTGCTC	TGATGCCGCA
5341	TAGTTAAGCC	AGCCCCGACA	CCCGCCAACA	CCCGCTGACG	CGCCCTGACG	GGCTTGTCTG
5401	CTCCCGGCAT	CCGCTTACAG	ACAAGCTGTG	ACCGTCTCCG	GGAGCTGCAT	GTGTCAGAGG
5461	TTTTACCGT	CATCACCGAA	ACGCGCGA			

FIG. 3-3



Molecule: pPJV2004, 5500 bps DNA Circular
 File Name: pPJV2004.cm5,

Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4697	LTA-CDS	
REGION	4805	5101	bGHpA	

Enzymes (13 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	NheI	3969
BamHI	4698,	BglII	4805,	EheI	5261,	KasI	5261

FIG. 4-1



Replacement Sheet
Title: NUCLEIC ACID ADJUVANTS
Inventors: Joel R. HAYNES *et al.*
Appl. No.: 09/993,307
Atty Docket No. 036481-0140

Molecule: pPJV2004, 5500 bps DNA Circular
Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector
File Name: pPJV2004.cm5,
Printed: 1-5500 bps (Full), format Single Strand

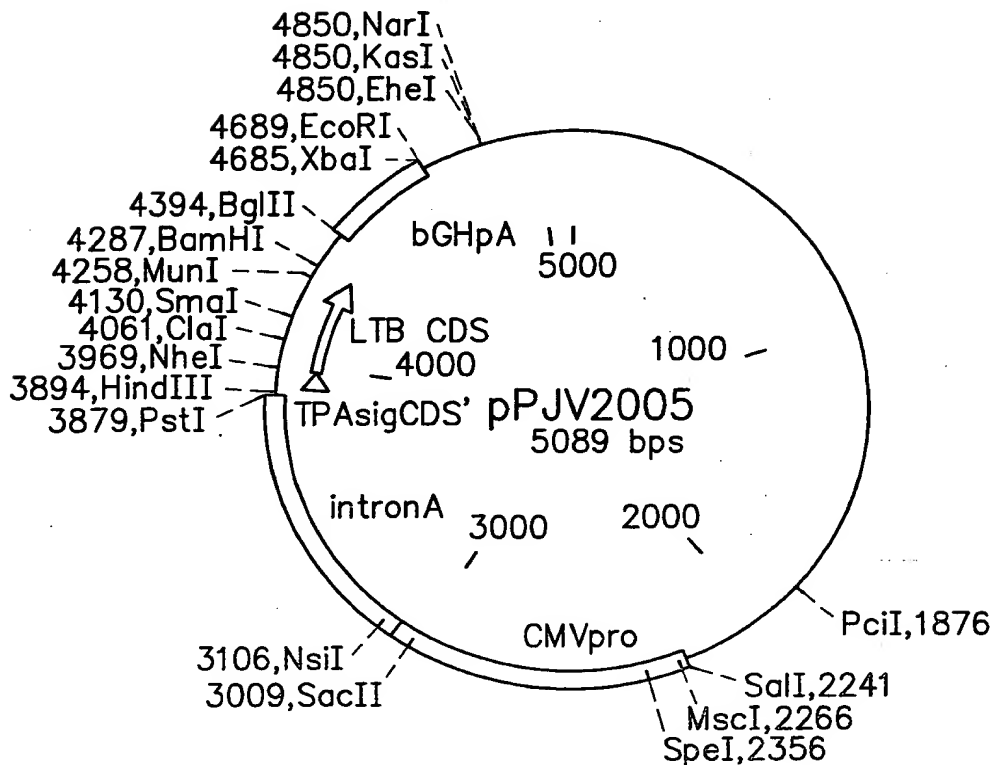
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1  GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTGGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTGTGCT ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAGTG
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAAGCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAATACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTGA GGCCACCACT TCAAGAACTC TGAGCACCAG CCTACATACC
1441 TCGCTCTGCT AATCCTGTGA CCAGTGGCTG CTGCCAGTGG CGATAAGTCC TGTCTTACCG
1501 GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CCTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGAAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGECCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCAAT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
```

FIG. 4-2



2641	TGGCATTATG	CCCAGTACAT	GACCTTACGG	GACTTTCCTA	CTTGGCAGTA	CATCTACGTA
2701	TTAGTCATCG	CTATTACCAT	GGTGATGCCG	TTTTGGCAGT	ACACCAATGG	GCGTGGATAG
2761	CGGTTTGA	CACGGGGATT	TCCAAGTCTC	CACCCCATTTG	ACGTCAATGG	GAGTTTGTTT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGGCGGTA	GGCGTGACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCGCCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCAAT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTACA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCGAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TCGGAGATTG
3661	GGCTCGCACC	GTGACGCAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTIG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCG	TTGCCGTGCT	GTTAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCAATGGC	GACAAATTAT	ACCGTGCTGA	CTCTAGACCC	CCAGATGAAA
4021	TAAAACGTTT	CGGAGGTCTT	ATGCCAGAG	GGCATAATGA	GTACTTCGAT	AGAGGAACTC
4081	AAATGAATAT	TAATCTTTAT	GATCACGCGA	GAGGAACACA	AACCGGCTTT	GTCAGATATG
4141	ATGACGGATA	TGTTTCCACT	TCTCTTAGTT	TGAGAAGTGC	TCACTTAGCA	GGACAGTCTA
4201	TATTATCAGG	ATATTCCACT	TACTATATAT	ATGTTATAGC	GACAGCACCA	AATATGTTTA
4261	ATGTTAATGA	TGTATTAGGC	GTATACAGCC	CTCACCCATA	TGAACAGGAG	GTTTCTGCGT
4321	TAGGTGGAAT	ACCATATTCT	CAGATATATG	GATGGTATCG	TGTTAATTTT	GGTGTGATTG
4381	ATGAACGATT	ACATCGTAAC	AGGGAATATA	GAGACCGGTA	TTACAGAAAT	CTGAATATAG
4441	CTCCGGCAGA	GGATGGTTAC	AGATTAGCAG	GTTTCCCACC	GGATCACCAA	GCTTGGAGAG
4501	AAGAACCCTG	GATTATCAT	GCACCACAAG	GTTGTGGA	TTCATCAAGA	ACAATTACAG
4561	GTGATACTTG	TAATGAGGAG	ACCCAGAATC	TGAGCACAAT	ATATCTCAGG	AAATATCAAT
4621	CAAAAGTTAA	GAGGCAGATA	TTTTCAGACT	ATCAGTCAGA	GGTTGACATA	TATAACAGAA
4681	TTCCGGATGA	ATTATGAGGA	TCCTCGCAAT	CCCTAGGAGG	ATTAGGCAAG	GGCTTGAGCT
4741	CACGCTCTTG	TGAGGGACAG	AAATACAATC	AGGGGCAGTA	TATGAATACT	CCATGGAGAA
4801	ACCCAGATCT	ACGTATGATC	AGCCTCGACT	GTGCCTTCTA	GTTGCCAGCC	ATCTGTTGTT
4861	TGCCCCCTCC	CCGTGCCCTT	CTTGACCCTG	GAAGGTGCCA	CTCCCACTGT	CCTTTCCTAA
4921	TAAAATGAGG	AAATTGCATC	GCATTGTCTG	AGTAGGTGTC	ATTCTATTCT	GGGGGGTGGG
4981	GTGGGGCAGG	ACAGCAAGGG	GGAGGATTGG	GAAGACAATA	GCAGGCATGC	TGGGGATGCG
5041	GTGGGCTCTA	TGGCTTCTGA	GGCGGAAAGA	ACCAGCTCGG	GCTCGACAGC	TGCACTCTAG
5101	AATTCACTGG	CCGTGTTTTT	ACAACGTCGT	GACTGGGAAA	ACCCTGGCGT	TACCCAACCT
5161	AATCGCCTTG	CAGCACATCC	CCCTTTCGCC	AGCTGGCGTA	ATAGCGAAGA	GGCCCGCACC
5221	GATCGCCCTT	CCCAACAGTT	GCGCAGCCTG	AATGGCGAAT	GGCGCCTGAT	GCGGTATTTT
5281	CTCCTTACGC	ATCTGTGCGG	TATTTACAC	CGCATATGGT	GCACTCTCAG	TACAATCTGC
5341	TCTGATGCCG	CATAGTTAAG	CCAGCCCCGA	CACCCGCCAA	CACCCGCTGA	CGCGCCCTGA
5401	CGGGCTTGTC	TGCTCCCGGC	ATCCGCTTAC	AGACAAGCTG	TGACCGTCTC	CGGGAGCTGC
5461	ATGTGTCAGA	GGTTTTAC	GTCATCACCG	AAACGCCCGA		

FIG. 4-3



Molecule: pPJV2005, 5089 bps DNA Circular
 File Name: pPJV2005.cm5,

Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4286	LTB CDS	
REGION	4394	4690	bGHpA	

Enzymes (19 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	HindIII	3894
NheI	3969,	ClaI	4061	SmaI	4130	MunI	4258

FIG. 5-1



Replacement Sheet
Title: NUCLEIC ACID ADJUVANTS
Inventors: Joel R. HAYNES *et al.*
Appl. No.: 09/993,307
Atty Docket No. 036481-0140

Molecule: pPJV2005, 5089 bps DNA Circular
Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector
File Name: pPJV2005.cm5,
Printed: 1-5089 bps (Full), format Single Strand

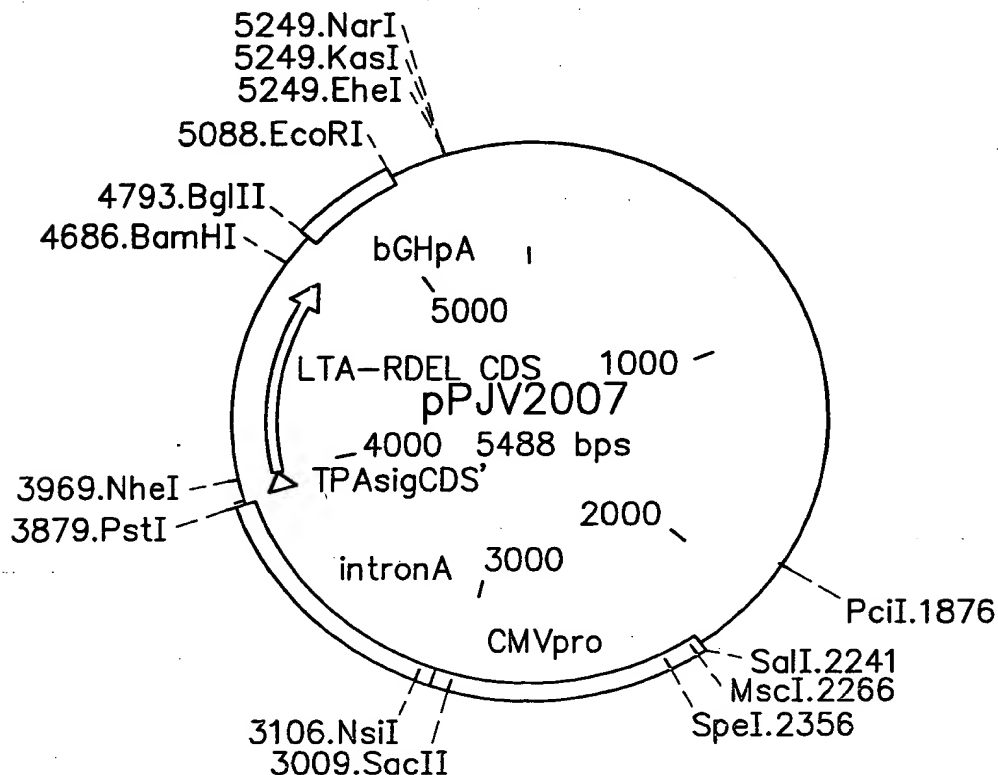
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121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGCTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GCATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA CCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCAGAA CTATTAAGTG
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG CCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT CGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTA AAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTC CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTA ACTGGCT TCAGCAGAGC CCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGCAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGCTTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGA AAACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCTCG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGAAACC GCCTCTCCCC CGCGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
```

FIG. 5-2



2641	TGGCATTATG	CCCAGTACAT	GACCTTACGG	GACTTTTCCTA	CTTGCCAGTA	CATCTACGTA
2701	TTAGTCATCG	CTATTACCAT	GGTGATGCGG	TTTTGGCAGT	ACACCAATGG	GCGTGATAG
2761	CGGTTTGACT	CACGGGGATT	TCCAAGTCTC	CACCCCATTG	ACGTCAATGG	GAGTTTGTTT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGGCGGTA	GGCGTGACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCGCCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCAAT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTACA	GGATGGGCTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCGAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TCCGAGATTG
3661	GGCTCGCACC	GTGACGCAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCG	TTGCGGTGCT	GTAAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TCAGAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCGCTCCC	CAGTCTATTA	CAGAACTATG	TTCGGAATAT	CGCAACACAC
4021	AAATATATAC	GATAAATGAC	AAGATACTAT	CATATACGGA	ATCGATGGCA	GGCAAAAGAG
4081	AAATGGTTAT	CATTACATTT	AAGAGCGGCG	CAACATTTCA	GGTCGAAGTC	CCGGGCAGTC
4141	AACATATAGA	CTCCCAAAAA	AAAGCCATTG	AAAGGATGAA	GGACACATTA	AGAATCACAT
4201	ATCTGACCGA	GACCAAAATT	GATAAATTAT	GTGTATGGAA	TAATAAAACC	CCCAATTCAA
4261	TTGCGGCAAT	CAGTATGGAA	AACTAGGGAT	CCTCGCAATC	CCTAGGAGGA	TTAGGCAAGG
4321	GCTTGAGCTC	ACGCTCTTGT	GAGGGACAGA	AATACAATCA	GGGGCAGTAT	ATGAATACTC
4381	CATGGAGAAA	CCCAGATCTA	CGTATGATCA	GCCTCGACTG	TGCCTTCTAG	TTGCCAGCCA
4441	TCTGTTGTTT	GCCCCCTCCC	CGTGCCCTCC	TTGACCCTGG	AAGGTGCCAC	TCCCCTGCTC
4501	CTTTCCATAAT	AAAATGAGGA	AATTGCATCG	CATTGTCTGA	GTAGGTGTCA	TTCTATTCTG
4561	GGGGGTGGGG	TGGGGCAGGA	CAGCAAGGGG	GAGGATTGGG	AAGACAATAG	CAGGCATGCT
4621	GGGGATGCGG	TGGGCTCTAT	GGCTTCTGAG	GCGGAAAGAA	CCAGCTGGGG	CTCGACAGCT
4681	CGACTCTAGA	ATTCACTGGC	CGTCGTTTTA	CAACGTCGTG	ACTGGGAAAA	CCCTGGCGTT
4741	ACCCAACCTTA	ATCGCCTTGC	AGCACATCCC	CCTTTCCGCCA	GCTGGCGTAA	TAGCGAAGAG
4801	GCCCGCACCG	ATCGCCCTTC	CCAACAGTTG	CGCAGCCTGA	ATGGCGAATG	GCGCCTGATG
4861	CGGTATTTTC	TCCTTACGCA	TCTGTGCGGT	ATTTACACACC	GCATATGGTG	CACTCTCAGT
4921	ACAATCTGCT	CTGATGCCGC	ATAGTTAAGC	CAGCCCCGAC	ACCCGCCAAC	ACCCGCTGAC
4981	GCGCCCTGAC	GGGCTTGTCT	GCTCCCGGCA	TCCGCTTACA	GACAAGCTGT	GACCGTCTCC
5041	GGGAGCTGCA	TGTGTCAGAG	GTTTTACCG	TCATCACCGA	AACGCGCGA	

FIG. 5-3



Molecule: pPJV2007, 5488 bps DNA Circular
File Name: pPJV2007.cm5,

Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4685	LTA-RDEL CDS	
REGION	4793	5089	bGHpA	

Enzymes (14 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	NheI	3969
BamHI	4686,	BglII	4793,	EcoRI	5088,	EheI	5249

FIG. 6-1



Molecule: pPJV2007, 5488 bps DNA Circular
Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector
File Name: pPJV2007.cm5,
Printed: 1-5488 bps (Full), format Single Strand

```
1  GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTITATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCCTGC
421 TATCTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACC GGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCGAAA CTATTAAGTG
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GCGGCCAGAT GGTAAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAGACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGACTTC CTTGAGATCC TTTTTCCTG CGCGTAATCT
1261 GCTCCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGG AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATCG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGC GCGTGGATAG
```

FIG. 6-2



2761	CGGTTTGACT	CACGGGGATT	TCCAAGTCTC	CACCCCATG	ACGTCAATGG	GAGTTTGT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGCGGGTA	GGCGTGACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCGCCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCAAT	GGAACGCGGA	TTCCCCGTGC	CAAGAGTGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCTATAGGTG	TGGGTATTG	ACCAATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTTC	AGAGACTGAC	ACGGACTCTG	TATTTTTACA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCGAA	TCTCGGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCTCC	AGCGGCTCAT	GGTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGACC	TCGGAGATTG
3661	GGCTCGCACC	GTGACCGAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAG	GTAACCTCCG	TTGCGGTGCT	GTTAACGGTG
3781	GAGGGCAGTG	TAGTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATG	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGCTGTGT	GGAGCAGTCT
3961	TCGTTTCGGC	TAGCAATGGC	GACAAATTAT	ACCGTGCTGA	CTCTAGACCC	CCAGATGAAA
4021	TAAAACGTTT	CGGAGGTCTT	ATGCCCAGAT	GGCATAATGA	GTACTTCGAT	AGAGGAACCT
4081	AAATGAATAT	TAATCTTTAT	GATCACGCGA	GAGGAACACA	AACCGGCTTT	GTCAGATATG
4141	ATGACGGATA	TGTTTCCACT	TCTCTTAGTT	TGAGAAGTGC	TCACTTAGCA	GGACAGTCTA
4201	TATTATCAGG	ATATTCCACT	TACTATATAT	ATGTTATAGC	GACAGCACCA	AATATGTTTA
4261	ATGTTAATGA	TGTATTAGGC	GTATACAGCC	CTCACCCATA	TGAACAGGAG	GTTTCTGCGT
4321	TAGGTGGAAT	ACCATATTCT	CAGATATATG	GATGGTATCG	TGTTAATTTT	GGTGTGATTG
4381	ATGAACGATT	ACATCGTAAC	AGGGAATATA	GAGACCGGTA	TTACAGAAAT	CTGAATATAG
4441	CTCCGGCAGA	GGATGGTTAC	AGATTAGCAG	GTTTCCCACC	GGATCACCAA	GCTTGGAGAG
4501	AAGAACCCTG	GATTCATCAT	GCACCACAAG	GTTGTGGAAA	TTCATCAAGA	ACAATTACAG
4561	GTGATACTTG	TAATGAGGAG	ACCCAGAATC	TGAGCACAAT	ATATCTCAGG	AAATATCAAT
4621	CAAAAGTTAA	GAGGCAGATA	TTTTCAGACT	ATCAGTCAGA	GGTTGACATA	TATAACAGAA
4681	TTTGAGGATC	CTCGCAATCC	CTAGGAGGAT	TAGGCAAGGG	CTTGAGCTCA	CGCTCTTGTC
4741	AGGGACAGAA	ATACAATCAG	GGGCAGTATA	TGAATACTCC	ATGGAGAAAC	CCAGATCTAC
4801	GTATGATCAG	CCTCGACTGT	GCCTTCTAGT	TGCCAGCCAT	CTGTTGTTTG	CCCCTCCCCC
4861	GTGCCTTCCT	TGACCCTGGA	AGGTGCCACT	CCCCTGTGCC	TTTCCTAATA	AAATGAGGAA
4921	ATTGCATCGC	ATTGTCTGAG	TAGGTGTCTAT	TCTATTCTGG	GGGGTGGGGT	GGGGCAGGAC
4981	AGCAAGGGGG	AGGATTGGGA	AGACAATAGC	AGGCATGCTG	GGGATGCGGT	GGGCTCTATG
5041	GCTTCTGAGG	CGGAAAGAAC	CAGCTGGGGC	TCGACAGCTC	GACTCTAGAA	TTCCTGGGCC
5101	GTCGTTTTAC	AACGTCGTGA	CTGGGAAAAC	CCTGGCGTTA	CCCAACTTAA	TCGCCTTGCA
5161	GCACATCCCC	CTTTCGCCAG	CTGGCGTAAT	AGCGAAGAGG	CCCGCACCGA	TCGCCCTTCC
5221	CAACAGTTGC	GCAGCCTGAA	TGGCGAATGG	CGCCTGATGC	GGTATTTTCT	CCTTACGCAT
5281	CTGTGCGGTA	TTTCACACCG	CATATGGTGC	ACTCTCAGTA	CAATCTGCTC	TGATGCCGCA
5341	TAGTTAAGCC	AGCCCCGACA	CCCCGCCACA	CCCGCTGACG	CGCCCTGACC	GGCTTGTCTG
5401	CTCCCGGCAT	CCGCTTACAG	ACAAGCTGTG	ACCGTCTCCG	GGAGCTGCAT	GTGTCAGAGG
5461	TTTTACCGT	CATCACCGAA	ACGCGCGA			

FIG. 6-3

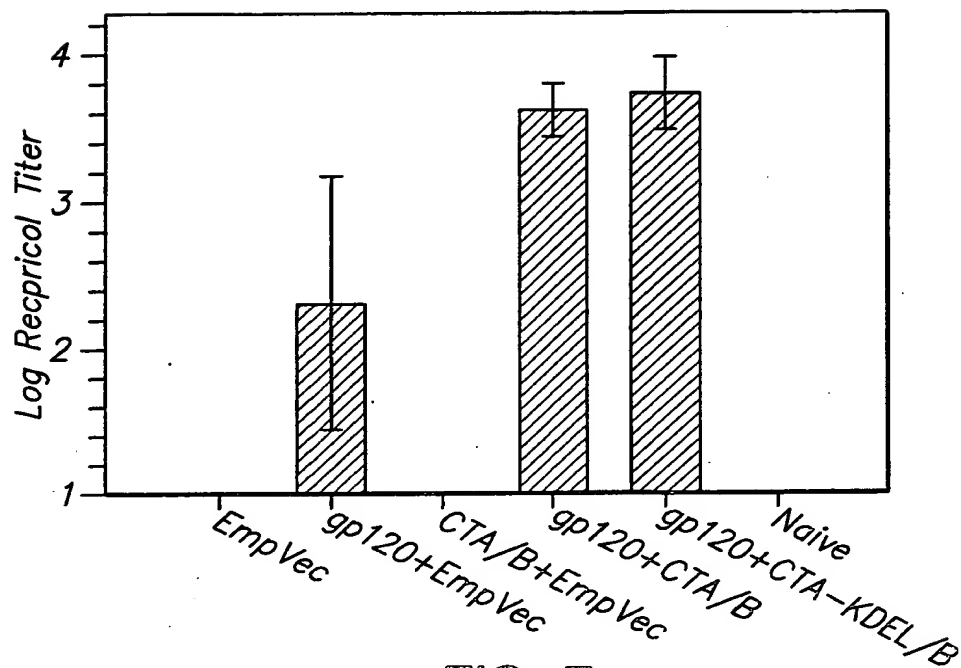
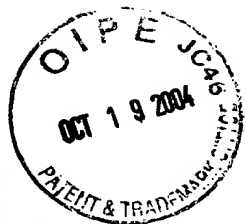


FIG. 7

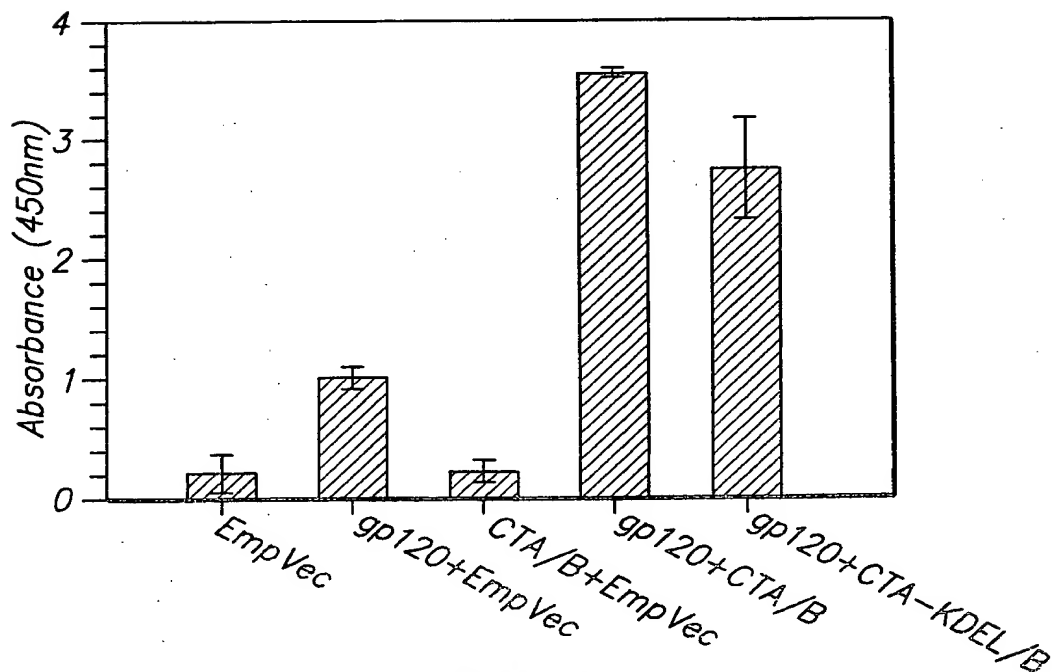


FIG. 8

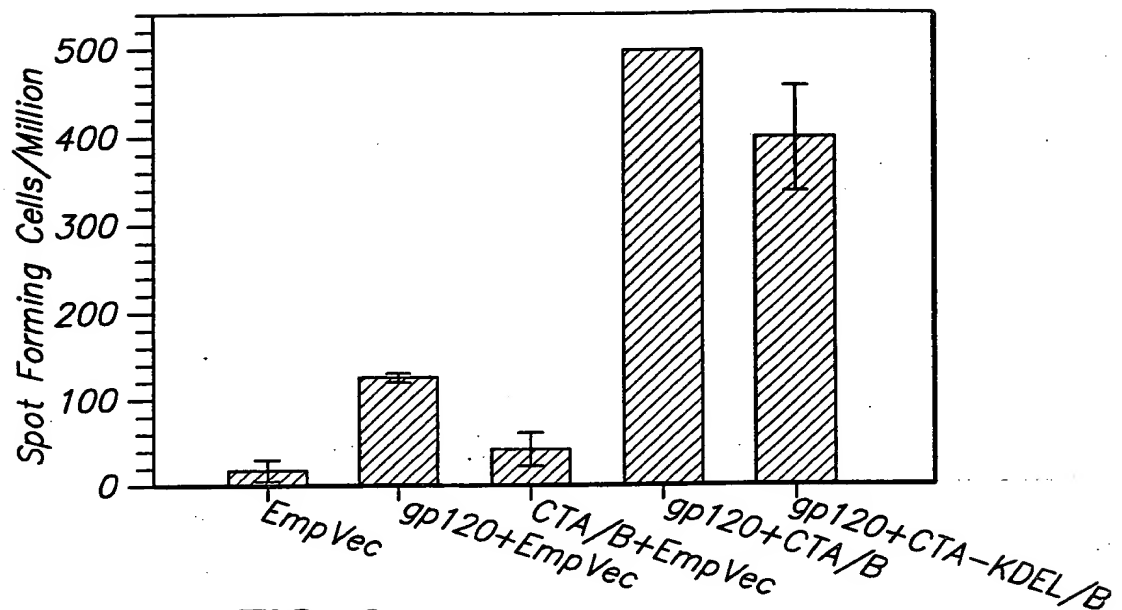


FIG. 9

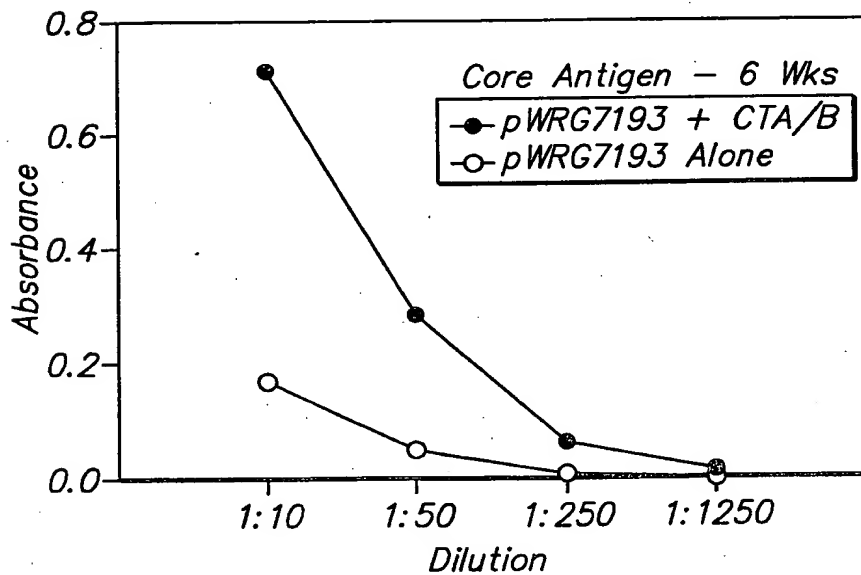


FIG. 10

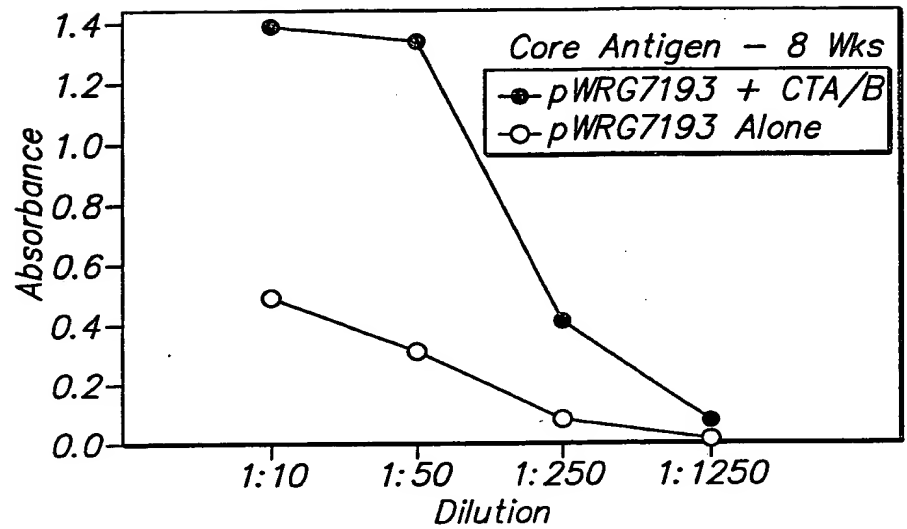
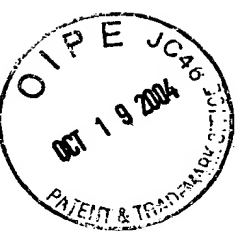


FIG. 11

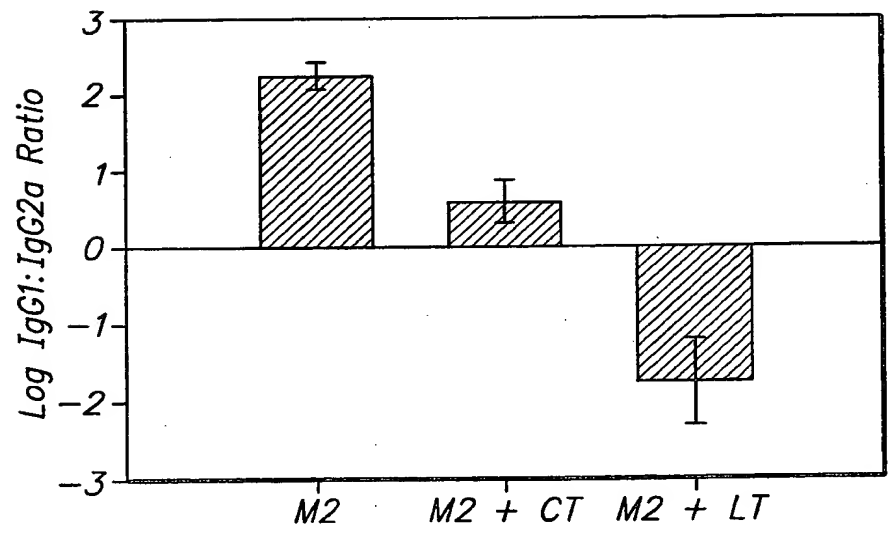


FIG. 12

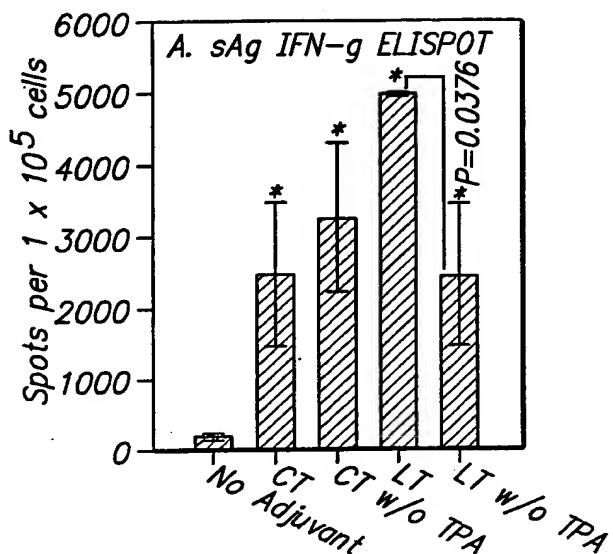


FIG. 13A

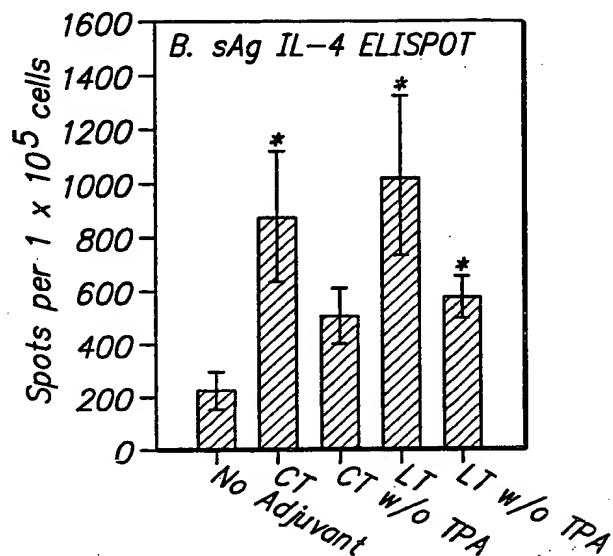


FIG. 13B

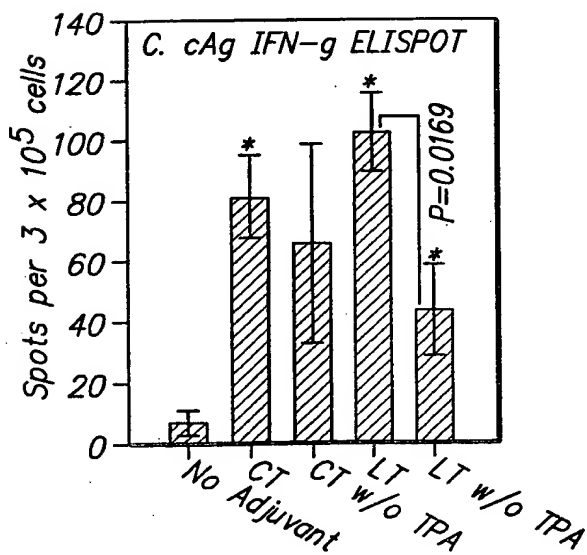


FIG. 13C

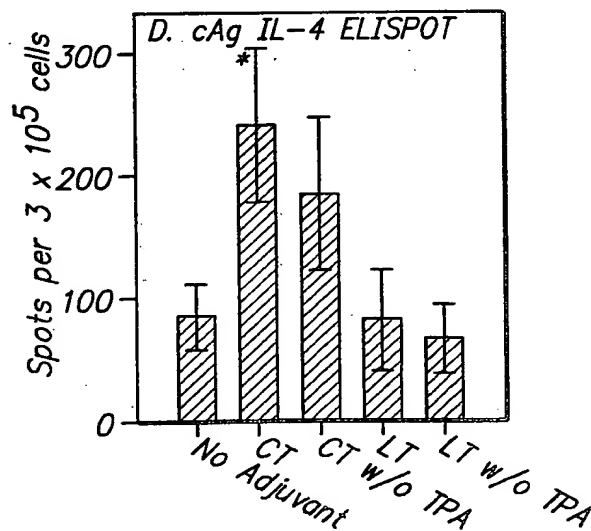
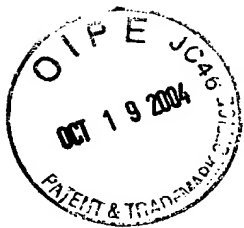


FIG. 13D



Protection Against HSV-2 Challenge in Mice

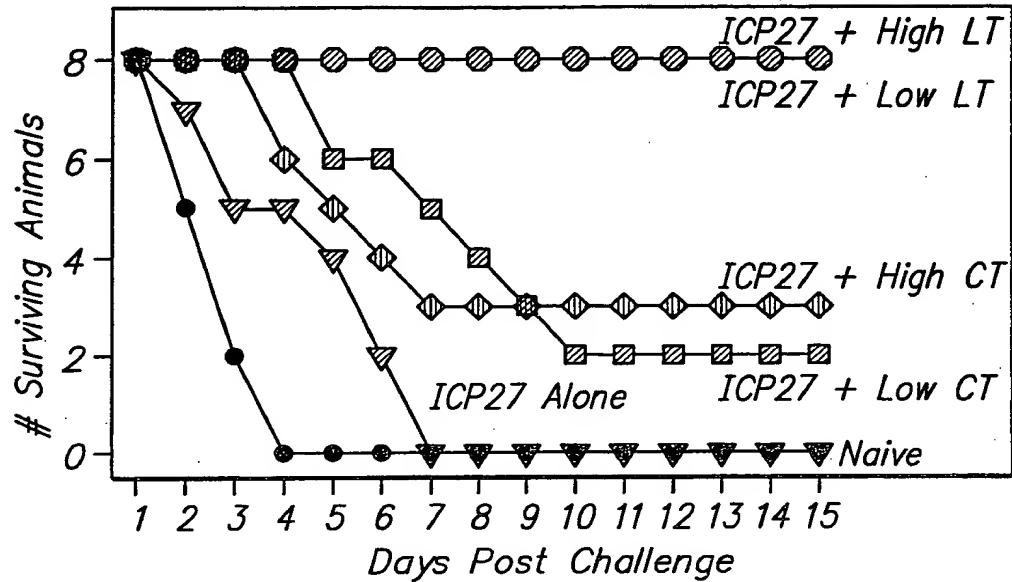


FIG. 14